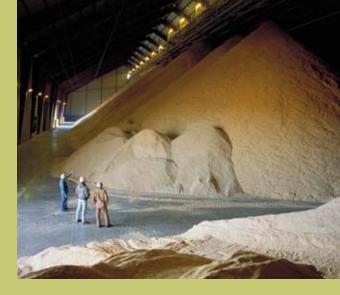# Building Green with

Temple-Inland®

Sustainability In Action

We do more than take an interest in environmental issues, we take action.

We understand all too well that in order to be a source of outstanding, sustainable products for our customers – we must also be committed to protecting and sustaining our own ultimate resource, the environment. And we are. From our ongoing waste conservation efforts to improved manufacturing efficiencies in our mills to increasing recovered and recycled materials in our products, Temple-Inland® is passionate about environmental responsibility. This brochure is a summary of some of those environmental efforts on a broad scale, by product line and in regard to some of the most popular green building rating systems. Let's look at the big picture first.

Wood Fiber and Other Raw Material Resources

Because of our long history as a forest management and timber resources company, Temple-Inland has always believed in getting every bit of added value and efficiency out of available fiber. Every part of every log, including bark, sawdust and shavings, is used in the manufacturing of our products, fueling of our facilities or creating byproducts used beneficially by other manufacturers. And we try to be just as efficient with the other raw materials that go into our processes as well. That means less wasting of these key resources and more sustainable product options for you.

Waste Water and Process Water

Water, everyone needs it…and Temple-Inland is no different, except perhaps when it comes to our respect for this valuable resource. Sure, water is critical to our manufacturing business – but conservation is just as critical. We've implemented innovative conservation strategies involving recycling, reclamation, re-use and zero discharge to decrease our total water flow and water consumption from Temple-Inland operations.

Reduce, Recycle and Reuse

You know the saying…waste not, want not. That's certainly the thinking at Temple-Inland. Our manufacturing operations have a history of embracing sustainable solutions for process waste including land application of certain wastes, significant reduction of hazardous and solid wastes and maximum use of recycled content in our products.

So, when it comes to taking care of our environmental resources, Temple-Inland has a record of taking action. Now, let's look at what that means within our major product groups.

Introducing Two Great Reduced Formaldehyde Solutions

TEMSTOCK-FREE
a Temple-Inland product

ULTRASTOCK-FREE
a Temple-Inland product

The Newest Additions *to our composite panel family of products take environmental responsibility in a whole new direction. Both of these new panels are free of added urea formaldehyde to give our customers solutions that meet even the strictest emissions standards.*

Composite Panels

Value-Engineered, Environmentally Preferred

Whether you need strength, machinability, fire resistance, water resistance, reduced weight or minimized formaldehyde emissions, the breadth of both our TemStock™ particleboard and UltraStock™ MDF lines enable you to specify the best product characteristics for each application. Produced almost entirely from reclaimed shavings, chips and other sawmill wood residue, you can use them with complete confidence, knowing they have been certified to contain exceptionally high levels of recycled content.

TemStock™ Particleboard manufactured in any one of our four facilities: Monroeville, Alabama; Hope, Arkansas; Thomson, Georgia; and Diboll, Texas, all carry the same certification. These products have been certified by the Composite Panel Association as complying to their Environmentally Preferable Product (EPP) specification standard CPA 3-08 to contain 100% recycled and/or recovered fibers. That same certification also verifies Temple-Inland particleboard conforms to both ANSI 208.1 Table B and HUD CFR Part 3280 formaldehyde emission requirements.

UltraStock™ MDF panels vary slightly in the certifications they carry, depending on which of our two plants produced them and which product specifications they carry.

Mt. Jewett, Pennsylvania
Scientific Certification Systems has awarded The UltraStock Select, Premium and Lite MDF, as well as the Molding Grade, Flooring, Slotwall, Mill Run and Utility MDF produced in our Mt. Jewett, Pennsylvania, plant a certification acknowledging them to contain 75% pre-consumer recycled fiber on a dry fiber weight basis.

The Composite Panel Association has certified the UltraStock Select, Premium and Moisture-Resistant MDF products available by special order from this facility to comply to the Environmentally Preferable Product (EPP) specification standard CPA 3-08, denoting a recycled and/or recovered fibers content of 100%.

Product is also available from this facility that is certified for Forest Stewardship Council (FSC) chain-of-custody and controlled wood recognition.

El Dorado, Arkansas
Scientific Certification Systems has also awarded all UltraStock Select, Premium and Lite MDF, as well as the Solidium MDF, Mill Run MDF and Utility MDF manufactured at our El Dorado, Arkansas, plant a certification acknowledging them to contain 80% pre-consumer recycled fiber on a dry fiber weight basis.

Fiberboard Products

Cost Efficient, Environmentally Responsible

Lightweight, cost efficient and with a long record of reliable performance, the brands that make up our fiberboard products category include some pioneers of sustainable building material manufacturing. Introduced in the late 50's, our fiberboard sheathing included high percentages of recycled or reclaimed fiber long before the term green building ever existed.

QuietBrace,™ SoundChoice,® FiberBase,® and Regular Fiberboard Sheathing Products produced in our Diboll, Texas fiberboard operation, have been certified by Scientific Certification Systems to contain at least 85% recycled pre-consumer wood fiber on a dry weight basis. The raw material used in this facility is southern yellow pine wood chips, a waste product from our solid wood lumber operation, also located in Diboll, Texas.

Besides eliminating waste that would otherwise end up in a landfill, this environmentally responsible recycling process also helps us maximize the usability of every tree harvested.

Another beneficial characteristic of the manufacturing process that produces our fiberboard products is that it can make use of damaged as well as younger, smaller diameter trees. That means even the timber gathered during the thinning process of existing pine plantations can be used to create valuable building materials.

SCS Certified
85% Recycled Pre-Consumer Wood Fiber
SCIENTIFIC CERTIFICATION SYSTEMS   CERT. NUMBER: SCS-MC-01609

Gypsum From Coal

Turning synthetic gypsum into real value

Temple-Inland has a unique association with the coal-fired electrical generation plant in Cumberland City, Tennessee. One of the byproducts of coal combustion is a material that can be chemically converted into calcium sulfite or gypsum. So, a material that is a waste product for them becomes a raw material for us. ➡

FSC

SCS Certified
80% Min Recycled Content Pre-Consumer
SCIENTIFIC CERTIFICATION SYSTEMS   ISO-14021 • SCS-MC-01035

SCS Certified
75% Min Recycled Content Pre-Consumer
SCIENTIFIC CERTIFICATION SYSTEMS   ISO-14021 • SCS-MC-01476

EPP
CPA CERTIFIED

Solid Wood Lumber

Maximum Usability, Extraordinary Efficiency

For over 100 years, Temple-Inland has been providing quality southern pine lumber with a combination of experience, expertise and advanced technology.

Much of our incoming fiber resources have been certified by the Sustainable Forestry Initiative® (SFI) program standard – and we have been approved to use the SFI program's on-product label in association with our lumber products.

In addition, our lumber manufacturing processes are designed to maximize the value we get from every tree harvested because every log brought into every mill is "read" by computer scanner to determine the ideal cutting profile to deliver the highest yield possible.

Traditional Lumber and Stud Products are then carefully conditioned in our controlled drying process that maintains the right moisture content to preserve wood strength and stability. They're also strictly inspected to classify them into a range of standard solid wood grade levels specifically suitable for certain applications and material efficiencies.

Finger Jointed and MSR Lumber Products raise efficiency to the highest level. Finger-jointed products capture the value of even the shortest pieces of good material and laminate them together into standard length boards, recovering what would otherwise have become waste. Machine Stress Rated (MSR) lumber tests each board and provides an accurate measurement of its strength so customers can buy exactly the product they need for their application and budget.

But nothing is wasted in our solid wood lumber operations because sawdust, chips and even bark are recovered and turned into raw materials for other Temple-Inland products.

SUSTAINABLE FORESTRY INITIATIVE®

Gypsum Board

Proven Performance, Unmatched Recycled Content

As the emphasis on green or sustainable building practices continues to grow, Temple-Inland has a strong story to tell. That's because over 80 percent of our gypsum board production capacity is manufactured with recycled content gypsum. That's a level of commitment no other gypsum manufacturer can match.

Once produced entirely from pure gypsum mined in our own Oklahoma quarry, we now produce a full line of gypsum board products with high levels of certified recycled gypsum.

Here are the specific percentages based on the type of product and plant locations:

Temple-Inland Regular Gypsum Board manufactured in Fletcher, Oklahoma, West Memphis, Arkansas and Cumberland City, Tennessee, has been certified in accordance to ISO 14021 standards to contain at least 99% recycled material on a dry weight basis.

Temple-Inland Specialty Gypsum Board manufactured in Fletcher, Oklahoma, West Memphis, Arkansas, and Cumberland City, Tennessee, has been certified in accordance to ISO 14021 standards to contain at least 95% recycled material (5 percent post-consumer content and 90 percent pre-consumer content) on a dry weight basis.

In addition, the recycled content levels of all gypsum board products produced in our Cumberland City and West Memphis facilities are third-party verified by Scientific Certification Systems (SCS).

Gypsum Board Produced In McQueeney, Texas, is certified in accordance to ISO 14021 standards as being a minimum of 50 percent recycled content (5 percent post-consumer content and 45 percent pre-consumer content). Efforts continue at this facility to locate and incorporate suitable recycled gypsum resources to increase our certified content.

Lastly, Temple-Inland gypsum board manufactured with recycled gypsum content meets the exact same physical and performance specification standards as traditional materials, so you can specify our products in any gypsum board application without hesitation.

SCS Certified
SCIENTIFIC CERTIFICATION SYSTEMS

ISO 14021

Gypsum From Coal *(continued)*

In fact, this arrangement provides approximately 1.2 million tons of extremely fine, high purity synthetic gypsum that supplies two of our manufacturing facilities completely.

Not only does this recapture a waste material that would otherwise be disposed of in a landfill, but the process also reduces the power plant's sulfur emissions, a precursor to acid rain, by over 96 percent.

That's a great win win story if we've ever heard one. We have a reliable supply of high-quality gypsum, the power plant dumps less waste – and you have greener product choices.

Green certification

Products that contribute credits for your project's green certification

We're committed to delivering materials that offer exceptional performance and environmental benefits. Here is a quick reference for how Temple-Inland® products can contribute valuable credits in the most popular green building rating systems and the categories in which those contributions are available.

GREEN RATING SYSTEMS CONTRIBUTION

Featured Temple-Inland Products	LEED				NAHB GREEN BUILDING STANDARD								GREEN GLOBE	CARB	PRODUCT CERTIFICATIONS[3]				
	MR 4.1	MR 5.1	MR 7	EQ 4.4	604.1(2)	606.2(3)	606.2(5)	606.2(6)	607.1(1)	901.4(a)	901.4(c)	901.4(d)	G2.9	compliant	SCS	EPP	ISO	SFI	FSC
COMPOSITE PANELS																			
UltraStock™ MDF	✓	✓	✓[1]		✓	✓[1]		✓		✓	✓			✓	✓	✓			✓[1]
UltraStock-FREE™ MDF	✓	✓	✓[1]	✓	✓	✓[1]		✓		✓	✓	✓	✓	✓	✓	✓			✓[1]
TemStock™ Particleboard	✓	✓			✓			✓		✓	✓			✓		✓			
TemStock-FREE™ Particleboard	✓	✓		✓	✓			✓		✓	✓	✓	✓	✓		✓			
FIBERBOARD																			
Fiberboard Sheathing	✓	✓			✓			✓							✓				
QuietBrace® Structural Sheathing	✓	✓		✓	✓			✓							✓				
SoundChoice® Sound-Deadening Board	✓	✓		✓	✓			✓							✓				
FiberBase® HD Roofing Substrate	✓	✓			✓			✓							✓				
LUMBER																			
SouthernPine Lumber & Studs		✓					✓											✓	
MSR Machine Stress-Rated Lumber		✓					✓											✓	
Select Structural Lumber		✓					✓											✓	
Southern Pine Finger Joint Studs	✓	✓			✓		✓		✓									✓	
GYPSUM BOARD																			
Regular, Type X and Type C	✓	✓			✓										✓[2]		✓		
ComfortGuard® Mold-Resistant	✓	✓			✓										✓[2]		✓		
GreenGlass™ Fiberglass-Faced Sheathing	✓	✓			✓										✓[2]		✓		
StructGuard® Structural Sheathing	✓	✓			✓										✓[2]		✓		
SilentGuard™ Shaftliner	✓	✓			✓										✓[2]		✓		
Span24™ Ceiling Board	✓	✓			✓										✓[2]		✓		
DamageGuard® AR/IR	✓	✓			✓										✓[2]		✓		

[1]Only MDF out of Mt. Jewett, PA applies. [2]Only gypsum board out of Cumberland City, TN and West Memphis, AR. [3]Consult your Temple-Inland representative for specific details of these certifications.

ENVIRONMENTAL CREDITS DESCRIPTIONS

LEED MR 4.1	Pre-Consumer Recycled Content	Specifies 10% of all materials on the project (less MEP) are certified in accordance to ISO 14021 to be recycled content.
LEED MR 5.1	Locally Produced Materials	Specifies 10% of all materials on the project (less MEP) be extracted and manufactured within 500 miles of the project.
LEED MR 7	Certified Wood	50% of wood-based materials and products certified in accordance to the Forest Stewardship Council's (FSC) Principles and Criteria
LEED EQ 4.4	Environmental Quality	Composite wood panels on the project shall contain no urea-formaldehyde.
NAHB 604.1(2)	Pre-Consumer Recycled Content	Use recycled content products in major areas such as walls, floors, insulation and roofing.
NAHB 606.2(3)	FSC Certification	Wood or wood-based products certified by Forest Stewardship Council (FSC).
NAHB 606.2(5)	SFI Certification	Wood or wood-based products certified by Sustainable Forestry Initiative (SFI).
NAHB 606.2(6)	Other Certification	Wood-based components certified in accordance to CPA-EPP, Scientific Certifications Systems (SCS), or ISO 14021.
NAHB 607.1(1)	Resource Efficient Materials	Use of engineered wood instead of solid wood components.
NAHB 901.4(a)	Low Formaldehyde / VOC emissions	PB and MDF in compliance with ANSI A208.1 and ANSI A208.2.
NAHB 901.4(c)	Low Formaldehyde / VOC emissions	PB and MDF in compliance with EPP-CPA 3-08.
NAHB 901.4(d)	Low Formaldehyde / VOC emissions	Composite wood contains no urea-formaldehyde.
Green Globe G2.9	Low-VOC emitting materials	Specifies selection of low-VOC emitting materials.
C.A.R.B. Compliance	California Air Resources Board	PB and MDF are certified to be CARB Compliant, Phase I & 2.

Environmental Responsibility

Temple-Inland® is committed to managing our resources, facilities and products in an environmentally responsible manner. This commitment is grounded in our corporate heritage as a forest and timber resources company and is published in our Environmental, Health and Safety policy. We will continue to actively improve both our processes and products in order to provide greater performance benefits for our customers and reduced environmental impact for us all.

For more information, contact your Temple-Inland representative or visit our website at www.templeinland.com.

About the certifiers

Environmentally Preferred Product (EPP)

The Composite Panel Association (CPA) is the North American trade association for producers of particleboard, medium density fiberboard (MDF), hardboard and other compatible products. Compliance to the CPA's Environmentally Preferable Product (EPP) standard is certified through its internationally recognized and accredited Grademark Certification Program. This logo signifies products that have been certified by the Composite Panel Association according to their Environmentally Preferable Product (EPP) certification standard.

Forest Stewardship Council (FSC)

FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. FSC has offices in more than 46 countries. It provides standard setting, trademark assurance and accreditation services for companies and organizations interested in responsible forestry. Products carrying the FSC label are independently certified to assure consumers that they come from forests that are managed to meet the social, economic and ecological needs of present and future generations.

International Organization for Standardization (ISO)

ISO (International Organization for Standardization) is the world's largest developer and publisher of International Standards. ISO is a non-governmental organization that forms a bridge between the public and private sectors. Therefore, ISO enables a consensus to be reached on solutions that meet both the requirements of business and the broader needs of society. Temple-Inland Gypsum Board manufactured in all our production facilities is certified in accordance to ISO 14021 standards.

Scientific Certification Systems (SCS)

SCS is an independent third-party certifier. SCS was established in 1984 as the nation's first third-party certifier for testing pesticide residues in fresh produce. Since then, the company has evolved to become a certifier of multiple facets of the food industry and of the environmentally sound management of forests, marine habitats and a wide variety of businesses. This logo signifies products or manufacturing procedures that have been certified by Scientific Certification Systems. Temple-Inland is proud to display this logo on its products and sales materials.

Sustainable Forestry Initiative (SFI)

Temple-Inland has been certified by the Sustainable Forestry Initiative® (SFI) program standard and has been approved to use the SFI program's on-product label in association with their lumber products. The SFISM program is administered by the Sustainable Forestry Board, a multi-stakeholder board comprised of representatives from the environmental, professional, conservation, industry, academia and public sectors. This board is responsible for the development and administration of SFI program standards and verification procedures.

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